DPM 137

MATERIAL SAFETY DATA SHEET

F-4757

UNION CARBIDE

(Essentially similar to U.S. Department of Labor Form OSHA-20)

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I. PRODUCT IDENTIFICATION

PRODUCT	Brazo Flux — (for general braze-welding)		
CHEMICAL NAME	NA	**SYNONYMS**	NA
FORMULA	NA	**CHEMICAL FAMILY**	NA
		MOLECULAR WEIGHT	NA
TRADE NAME	Brazo Flux		

II. HAZARDOUS INGREDIENTS

A complex of elements composed of material shown below.

NOTE: In the table below, the symbol "<" means "less than" and "C" denotes "ceiling limit."

MATERIAL	Wt (%)	ACGIH (1979) TLV-TWA (Units)	MATERIAL	Wt (%)	ACGIH (1979) TLV-TWA (Units)
Borax Glass	< 20	1 mg/m^3 (anhydrous borate)			
Boric Acid	< 85	None established			

III. PHYSICAL DATA

BOILING POINT, 760 mm. Hg	NA	**FREEZING POINT**	NA	**SPECIFIC GRAVITY (H_2O = 1)**	1.625 @68°F
VAPOR PRESSURE AT 20°C.	NA	**VAPOR DENSITY (air = 1)**	NA	**SOLUBILITY IN WATER, % by wt.**	Moderate
PER CENT VOLATILES BY VOLUME	NA	**EVAPORATION RATE (Butyl Acetate = 1)**	NA		
APPEARANCE AND ODOR	White powder with no characteristic odor.				

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	NA	**AUTOIGNITION TEMPERATURE**	NA
FLAMMABLE LIMITS IN AIR, % by volume	**LOWER** NA	**UPPER**	NA
EXTINGUISHING MEDIA	Will not burn, use water to cool		
SPECIAL FIRE FIGHTING PROCEDURES	None currently known		
UNUSUAL FIRE AND EXPLOSION HAZARDS	None currently known		

V. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE See Section II - Welding fume (total particulate NOC) TWA = 5 mg/m^3 (ACGIH 1979)

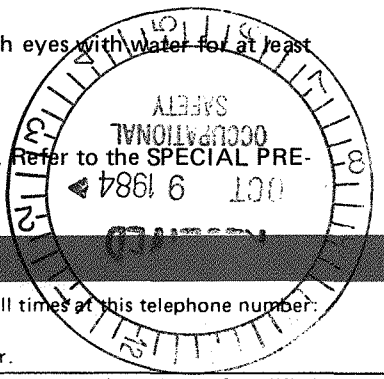
EFFECTS OF OVEREXPOSURE AND EMERGENCY AND FIRST AID PROCEDURES: –

The flux can cause skin and eye irritation. Wash skin thoroughly with soap and water. Flush eyes with water for at least 15 minutes.

If ingested, consult a physician.

Use of the flux for brazing/welding will create fumes and gases, as well as infrared radiation. Refer to the SPECIAL PRECAUTIONS in Section IX. If breathing is difficult give oxygen. Call a physician.

In case of eye burn call a physician.



EMERGENCY PHONE NUMBER

IN CASE OF EMERGENCIES involving this material, further information is available at all times at this telephone number:

304: 744-3487

For routine information contact your local Linde Supplier.

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VI. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID
UNSTABLE	STABLE	
	X	None currently known

INCOMPATIBILITY (materials to avoid) None currently known

HAZARDOUS DECOMPOSITION PRODUCTS – When used in welding will vary with operating conditions and welding rod being used. Reasonably expected decomposition products of normal operation from this welding material includes oxides of the materials in the rod. Among these may be iron oxide, copper oxide, manganese oxide, silicon oxide and carbon monoxide. Also see Special Precautions IX.

HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID
May Occur	Will Not Occur	
	X	None currently known

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Avoid breathing of dust. Scoop up material and flush residue with water to chemical sewer.

WASTE DISPOSAL METHOD – Isolated, protected dumping or controlled burning in accordance with Federal, state and local regulations.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type) – Depends on specific use, conditions, and location. Use adequate ventilation or personal respiratory protection. See Section IX and OSHA 29 CFR 1910.252 or ANSI Z49.1

VENTILATION	**LOCAL EXHAUST** – The need for local exhaust ventilation or airline respirators will depend upon the individual circumstances. See OSHA 29 CFR 1910.252 and ANSI Z49.1	**SPECIAL** – In confined areas, local exhaust is essential.
	MECHANICAL (general) – See ANSI Z49.1	**OTHER** – – –
PROTECTIVE GLOVES	Welding gloves recommended	**EYE PROTECTION** Safety spectacles or goggles
OTHER PROTECTIVE EQUIPMENT – See ANSI Z49.1 – Flame retardant clothing recommended.		

IX. SPECIAL PRECAUTIONS

Welding fumes cannot be classified simply. The composition and quantity are both dependent on the alloy being welded and the materials used. The number of welders in a specific area, their average work time, the amount of ventilation present in the work environment, and most important, the relationship of the welder's head with respect to the fume plume, all affect the level of contaminants found within the breathing zone. When ventilation is questionable (see OSHA 29 CFR 1910.252 and ANSI Z49.1), an air sample in the direct breathing zone, is recommended (see AWS publication F1.1-76), and should, at a minimum, be analyzed for those materials listed in the hazardous decomposition products in Section VI.

WARNING: Brazing or gas welding produces fumes and gases which can harm your health, as well as infrared radiation (heat rays from the flame or hot metal) which can injure eyes. Some high intensity flames may produce noise which can damage hearing. Read and understand the manufacturer's instructions and your employer's safety practices. Keep your head out of the fumes and gases. Do not breathe the fumes and gases caused by the flame. Use enough ventilation. The type and amount of fumes and gases depend on the equipment and supplies used. Air samples can be used to find out what respiratory protection is needed. Wear the correct ear, eye, and body protection. Prevent fires. To learn more about SAFETY AND HEALTH read the manufacturer's literature; Linde's free form F-2035, "Precautions & Safe Practices for Welding, Cutting, & Heating with OXY-FUEL Gas Equipment"; OSHA Title 29 CFR 1910; and American National Standard Z49.1, "Safety in Welding and Cutting", available from the American Welding Society, 2501 N.W. 7th St., Miami, FL 33125.

OTHER HANDLING AND STORAGE CONDITIONS – – Open flames during welding use could be the source of ignition of combustible materials. Prevent fires. Refer to NFPA 51B "Cutting & Welding Processes". Wash thoroughly after handling. Store in closed containers under dry conditions.